WHAT IS CLAIMED IS:

1. For use with a video decoder capable of decoding streaming video, a decoder buffer capable of receiving from a streaming video transmitter data packets comprising said streaming video and storing said data packets in a plurality of access units, each of said access units capable of holding at least one data packet associated with a selected frame in said streaming video, wherein said decoder buffer comprises:

a first buffer region comprising at least one access unit capable of storing data packets that are less immediately needed by said video decoder; and

a re-transmission region comprising at least one access unit capable of storing data packets that are most immediately needed by said video decoder, wherein said decoder buffer, in response to a detection of a missing data packet in said re-transmission region requests that said streaming video transmitter retransmit said missing packet.

.1   2.   The decoder buffer set forth in Claim 1 wherein at

2   least one of said data packets are stored in said first buffer

3   region for a period of time equal to a start-up delay time of

4   said decoder buffer.

1   3.   The decoder buffer set forth in Claim 1 wherein said

2   data packets are first stored in said first buffer region and

3   are shifted into said re-transmission region.

1   4.   The decoder buffer set forth in Claim 1 wherein said

2   first buffer region is separate from said re-transmission

3   region.

1   5.   The decoder buffer set forth in Claim 1 wherein said

2   first buffer region overlaps at least a portion of said re-

3   transmission region.

1   6.   The decoder buffer set forth in Claim 5 wherein said

2   first buffer region overlaps all of said re-transmission region.

1   7. The decoder buffer set forth in Claim 1 wherein said

2 first buffer region is separated from said re-transmission

3 region by a second buffer region in which a late data packet is

4 late with respect to an expected time of arrival of said late

5 data packet, but is not sufficiently late to require a re-

6 transmission of said late data packet.

1   8.   A receiver capable of receiving encoded streaming data

2   comprising:

3   a device capable of at least one of: 1) displaying

4   streaming video data associated with said encoded streaming data

5   and 2) audibly playing streaming audio data associated with said

6   encoded streaming data;

7   a decoder capable of decoding said encoded streaming

8   data; and

9   a decoder buffer capable of receiving from a streaming

10   data transmitter data packets comprising said encoded streaming

11   data and storing said data packets in a plurality of access

12   units, each of said access units capable of holding at least one

13   data packet associated with a selected portion of said encoded

14   streaming data, wherein said decoder buffer comprises:

15   a first buffer region comprising at least one

16   access unit capable of storing data packets that are

17   less immediately needed by said decoder; and

18   a re-transmission region comprising at least one

19   access unit capable of storing data packets that are

20   most immediately needed by said decoder, wherein said

21   decoder buffer, in response to a detection of a

22 missing data packet in said re-transmission region
23 requests that said streaming video transmitter
24 retransmit said missing packet.

1   9.   The receiver set forth in Claim 8 wherein at least one
2   of said data packets are stored in said first buffer region for
3   a period of time equal to a start-up delay time of said decoder
4   buffer.

1   10. The receiver set forth in Claim 8 wherein said data
2   packets are first stored in said first buffer region and are
3   shifted into said re-transmission region.

1   11. The receiver set forth in Claim 8 wherein said first
2   buffer region is separate from said re-transmission region.

1   12. The receiver set forth in Claim 8 wherein said first
2   buffer region overlaps at least a portion of said re-
3   transmission region.

-1   13.   The receiver set forth in Claim 12 wherein said first

2   buffer region overlaps all of said re-transmission region.

1   14.   The receiver set forth in Claim 8 wherein said first

2   buffer region is separated from said re-transmission region by

3   a second buffer region in which a late data packet is late with

4   respect to an expected time of arrival of said late data packet,

5   but is not sufficiently late to require a re-transmission of

6   said late data packet.

.1   15. For use with a video decoder capable of decoding

2   streaming video, a method of buffering the streaming video

3   comprising the steps of:

4   receiving from a streaming video transmitter data

5   packets comprising the streaming video and storing the data

6   packets in a plurality of access units in a decoder buffer, each

7   of the access units capable of holding at least one data packet

8   associated with a selected frame in the streaming video;

9   storing data packets that are less immediately needed

10   by the video decoder in a first buffer region of the decoder

11   buffer comprising at least one access unit capable of storing

12   data packets; and

13   storing data packets that are most immediately needed

14   by the video decoder in a re-transmission region of the decoder

15   buffer comprising at least one access unit, wherein the decoder

16   buffer, in response to a detection of a missing data packet in

17   the re-transmission region, requests that the streaming video

18   transmitter retransmit the missing packet.

.1   16. The decoder buffer set forth in Claim 15 wherein at

2   least one of the data packets are stored in the first buffer

3   region for a period of time equal to a start-up delay time of

4   the decoder buffer.

1   17. The decoder buffer set forth in Claim 15 wherein the

2   data packets are first stored in the first buffer region and are

3   shifted into the re-transmission region.

1   18. The decoder buffer set forth in Claim 15 wherein the

2   first buffer region is separate from the re-transmission region.

1   19. The decoder buffer set forth in Claim 15 wherein the

2   first buffer region overlaps at least a portion of the re-

3   transmission region.

1   20. The decoder buffer set forth in Claim 19 wherein the

2   first buffer region overlaps all of the re-transmission region.

.1   21. The decoder buffer set forth in Claim 15 wherein the

2   first buffer region is separated from the re-transmission region

3   by a second buffer region in which a late data packet is late

4   with respect to an expected time of arrival of the late data

5   packet, but is not sufficiently late to require a re-

6   transmission of the late data packet.